

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-029280**Date Inspected:** 04-Mar-2013**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** William Sherwood**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS OBG**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At the Hinge 'A' expansion joint of OBG to skyway, QA randomly observed ABF welder Mathew Cochran continuing to perform flat and horizontal stud welding on 3/4" diameter x 8 3/16" long stud to the top and side of the expansion joint deck as per the procedures ABF-WPS-D1.5-5062 (horizontal position) and ABF-WPS-D1.5-5063 (flat position). The welder performed a pre-production test of two (2) studs and were bent to an approximate angle of 30 degrees utilizing a ten pound sledge hammer. The welding and testing of the two studs were performed in the flat position. At the conclusion of the test, the welder started the production stud welding. Later in the shift the welder performed a pre-production test on two studs that were welded in the horizontal position utilizing the same size studs. The test results were noted as acceptable and at the conclusion of the test the welder started the stud welding on the side of the expansion deck implementing procedure ABF-WPS-D1.5-5062. The stud welding was not completed during this shift.

At W2 Dehumidification Platform west side of the OBG between the east and west bound, QA randomly observed ABF/JV the welder Richard Garcia performing the fillet welding the 8" C-channel to 5" x 3" angle bracket to 6" x 6" knee brace. The welder was observed the Shielded Metal Arc Welding (SMAW) using the 1/8" diameter E7018H4R electrode as per the procedure ABF-WPS-D1.5-F1200A. The Dehumidification Platform is being assembled and installed thru Request for Information (RFI) #001249R02 and per ZPMC drawing OBG E3050. During the welding, ABF QC Fred Michels was noted monitoring the welding and performing welding parameter

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check of the in process welding. The average measured current of 140 amperes was noted. Prior to welding, the welder was noted preheating the joints using a propylene gas torch. At the end of the shift, four (4) of the knee brace bracket to 6" x 6" angular knee brace connections were completed.

At East bound skyway lifting lug plate identified as ESSLH-6, located at the deck plate, this QA randomly observed ABF welder Wai Kit Lai perform the continued SMAW welding of the fill passes. The weld joint appears to have a 45 degrees single bevel groove using a copper backing plate that will be removed at conclusion of the welding. The welder was noted welding the lifting lug hole plate to top deck using 1/8" diameter E7018H4R electrode as per the Welding Procedure Specification (WPS) ABF-WPS-D15-1030-1. The ABF QC Inspector, William Sherwood, was noted monitoring the welding parameters and prior to the welding, Mr. Sherwood, together with this QA performed the fit-up inspection and at the conclusion of the inspection the fit-up appeared to comply with the contract documents. The welding of the lifting lug plate was completed and the preparation process was started on the lifting lug plate identified as weld number ESSLH-5.

At east bound Skyway alignment hole (ALLH) plate to the deck plate, ABF welder Mike Jimenez was observed performing the welding using the Shielded Metal Arc Weld (SMAW) process during the welding of the root pass. The welder was noted using a 1/8" diameter E7018H4R electrode as per the Welding Procedure Specification (WPS) ABF-WPS-D15-1050B. Prior to welding, the ABF QC Inspector, Salvador Merino, was observed inspecting the fit-up alignment of the plate to the deck plate. At the conclusion of the QC inspection, Mr. Merino requested QA verification. At the completion of the verification this QAI concurs with the QC inspector's assessment. At this time the welder started and completed the tack welding and then proceeded the welding of the root pass. During welding, ABF QC Salvador Merino was observed monitoring the welding and checking the welding parameters which were observed as 135 amperes. The welder was also noted preheating the weld joint prior to the production welding. The welding was not completed and is scheduled to continue on the following shift.

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT/MT on various welds mentioned below. The QA verification was performed to verify that the welding and the VT/MT inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QA verification it appeared that the welds and the QC inspection complied with the contract documents.

1. 12E-PP111E stool to cap plate – CJP T- weld joint QA verified.
2. 12E-PP117E stool to bottom flange of bike path – CJP T- weld joint QA verified.
3. Dehumidification Platform diagonal angle to C-channel – fillet weld joint QA verified.
4. L13E-PP119.5-E3 North – OBG lifting lug (pyramid) removal QA verified
5. L13E-PP119.5-E4 South – OBG lifting lug (pyramid) removal QA verified

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At east bound Hinge 'A' expansion joint, ABF personnel were noted stud welding 3/4" diameter x 8 3/16" long Nelson stud during the shift.



At Hinge 'A' expansion joint of OBG, ABF stud welder Mathew Cochran was observed perform flat position pre-production test of 3/4" diameter x 8 3/16" long Nelson studs prior production welding.



At east bound Skyway lifting lug hole (SLLH) outside, ABF welder Wai Kit Lai was observed perform 1G (flat) position Shielded Metal Arc Welding (SMAW) fill pass welding on infill plate to deck plate butt joint.



At OBG panel point PPT28 west bound, ABF personnel were noted performing fit up on alignment lifting lug hole (ALLH) during the shift.

## Summary of Conversations:

No significant conversation occurred today.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Gary Thomas 916-764-6027, who represents the Office of Structural Materials for your project.

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**Inspected By:** Lizardo, Joselito

Quality Assurance Inspector

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**Reviewed By:** Reyes, Danny

QA Reviewer